WHAT IS CLAIMED IS:

1.   A method for controlling operations in a cellular system, comprising:

    determining that a handoff is to be made for a portable wireless device operating in a serving cell;

5   determining a position of the portable wireless device;

    determining a target cell based on the position; and

    assigning the portable wireless device to the target cell.

2.   The method of claim 1, wherein the step of determining that a handoff is to be made is based on detecting that the signal strength of the transmission between the portable

10   wireless device and the serving cell has fallen below a threshold.

3.   The method of claim 1, wherein the step of determining that a handoff is to be made is based on detecting that the bit error rate of the transmission between the portable wireless device and the serving cell has exceeded a threshold.

4.   The method of claim 1, wherein the step of determining that a handoff is to be

15   made is based on detecting that the signal strength of the transmission between the portable wireless device and the serving cell has fallen below a first threshold and that the bit error rate of the transmission between the portable wireless device and the serving cell has exceeded a second threshold.

5.   The method of claim 1, wherein the step of determining that a handoff is to be

20   made is based on detecting that the signal strength of the transmission between the portable wireless device and the serving cell is less than the signal strength of a transmission between the portable wireless device and a candidate cell.

6.   The method of claim 1, wherein the step of determining that a handoff is to be made is based on detecting that the bit error rate of the transmission between the portable wireless device and the serving cell is greater than the bit error rate of a transmission between the portable wireless device and a candidate cell.

5   7.   The method of claim 1, wherein the step of assigning comprises handing off the portable wireless device from the serving cell to the target cell.

8.   The method of claim 1, wherein the step of determining a position is performed using one or more of the following methods: time difference of arrival (TDOA), angle of arrival (AOA), location pattern matching (LPM), and global positioning system (GPS).

10   9.   The method of claim 1, wherein the step of determining a position includes determining a position vector of the portable wireless device.

10.   The method of claim 1, wherein the step of determining a position includes determining a velocity vector of the portable wireless device.

11.   The method of claim 1, wherein the step of determining a target cell comprises

15   identifying which of a plurality of candidate cells is closest to the portable wireless device.

12.   The method of claim 9, wherein the step of determining a target cell comprises identifying which of a plurality of candidate cells best corresponds to the position vector.

13.   The method of claim 10, wherein the step of determining a target cell comprises identifying which of a plurality of candidate cells best corresponds to the velocity vector.

20   14.   The method of claim 1, wherein the step of determining a target cell comprises accessing a stored geographic representation of the cellular coverage area in order to ascertain that the portable wireless device is traveling on a specific road in the cellular coverage area.

15.   A system for controlling operations in a cellular system, comprising:

means for determining that a handoff is to be made for a portable wireless device operating in a serving cell, wherein the portable wireless device has a position;

means for determining the position of the portable wireless device; and

5   means for determining a target cell based on the position.

16.   The system of claim 15, wherein the means for determining that a handoff is to be made comprises a computer at the serving cell adapted to measure one or more of a signal strength and a bit error rate.

17.   The system of claim 15, wherein the means for determining that a handoff is to be

10   made comprises a computer at a mobile telephone switching office (MTSO) adapted to measure one or more of a signal strength and a bit error rate.

18.   The system of claim 15, wherein the means for determining a position performs one or more of the following computations: time difference of arrival (TDOA), angle of arrival (AOA), location pattern matching (LPM), and global positioning system (GPS).

15   19.   The system of claim 15, wherein the means for determining a position comprises a computer at the mobile telephone switching office (MTSO).

20.   The system of claim 15, wherein the means for determining a position is further adapted to compute a position vector.

21.   The system of claim 15, wherein the means for determining a position is further

20   adapted to compute a velocity vector.

22.   The system of claim 15, wherein the means for determining a target cell comprises a computer adapted to determine which of a plurality of candidate cells is closest to the position.

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23.   The system of claim 20, wherein the means for determining a target cell comprises a computer adapted to determine which of a plurality of candidate cells best corresponds to the position vector.

24.   The system of claim 21, wherein the means for determining a target cell comprises a computer adapted to determine which of a plurality of candidate cells best corresponds to the velocity vector.

25.   The system of claim 15, further comprising means for assigning the portable wireless device to the target cell.

26.   The system of claim 25, wherein the means for assigning comprises the mobile telephone switching office (MTSO), the MTSO being adapted to send a command through the serving cell for the portable wireless device to switch to the target cell.

27.   A system for controlling operations in a cellular system, comprising:

a location system adapted to determine a position of a portable wireless device, wherein the portable wireless device is operating in a serving cell; and

a computer, the computer being adapted to generate an alert, wherein the alert indicates that the portable wireless device should be handed off from the serving cell to a target cell;

wherein the computer is further adapted to determine the target cell based on the position.

28.   The system of claim 27, wherein the location system comprises a mobile telephone switching office.

29.   The system of claim 27, wherein the position is determined using one or more of the following computations: time difference of arrival (TDOA), angle of arrival (AOA), location pattern matching (LPM), and global positioning system (GPS).

30.   The system of claim 27, wherein the alert is generated based on a measurement of at least one of the signal strength and the bit error rate of the link between the portable wireless device and the serving cell.

31.   The system of claim 27, wherein the alert is generated based on a measurement of at least one of the signal strength and the bit error rate of a link between the portable wireless device and a candidate cell.

32.   The system of claim 27, wherein a candidate cell that is closest to the position of the portable wireless device is determined to be the target cell.

33.   The system of claim 27, wherein the position is used to create a position vector, and wherein a candidate cell that best corresponds to the position vector is determined to be the target cell.

34.   The system of claim 27, wherein the position is used to create a velocity vector, and wherein a candidate cell that best corresponds to the velocity vector is determined to be the target cell.

35.   A method for controlling operations in a cellular system, comprising:

determining a position of a portable wireless device operating in a serving cell;

determining that a handoff is to be made for the portable wireless device based on the position;

determining a target cell; and

assigning the portable wireless device to the target cell.

36.   The method of claim 35, wherein the step of determining that a handoff is to be made comprises generating a handoff alert because the portable wireless device is at or is approaching a boundary of the serving cell.

37.   The method of claim 35, wherein the step of determining a target cell comprises

5   selecting a candidate cell based on a measurement of at least one of the signal strength and the bit error rate of a transmission between the portable wireless device and the candidate cell.

38.   The method of claim 37, wherein selecting a candidate cell is further based on a measurement of the distance between the position of the portable wireless device and the

10   candidate cell.